FIRE ALARM SYSTEM

BERKELEY LAB

BERKELEY, CALIFORNIA

NATIONAL LABORATORY

MXL GENERAL WIRING GUIDELINES

- 1. ALL WIRING MUST COMPLY WITH LOCAL AND CALIFORNIA ELECTRICAL CODES. ALL WIRING MUST BE DONE AS DESCRIBED IN NOTES 2 & 6 BELOW, TO OBTAIN SAFE AND PROPER SYSTEM OPERATION.
- 2. EARTH GROUND THE MXLV ENCLOSURE PROPERLY; SEE LATEST EDITION OF NATIONAL ELECTRICAL CODES FOR APPROVED METHODS. CONDUIT GROUND IS NOT ADEQUATE.
- 3. SEPARATE ALL WIRING FOR INITIATING DEVICES (i.e., DETECTORS, MANUAL STATIONS, TRI MODULES, ETC) FROM ALL OTHER WIRING IN THE MXLV ENCLOSURE.
- 4. INSULATE ALL CABLE DRAIN WIRES FROM ANY CONDUIT OR OTHER EARTH GROUNDED ELECTRICAL BOX INCLUDING THOSE IN THE MXL ENCLOSURE.
- 5. CONNECT SHIELD CABLE WIRE ONLY AT SPECIFIED LOCATION INSIDE THE MXL ENCLOSURE.
- 6. EARTH GROUND ALL CONDUIT RUNS THROUGHOUT THE INSTALLATON.
- 7. LINE RESISTANCE IS MEASURED AT THE ALD-2I MODULE SCREW TERMINALS. THE END OF THE LOOP MUST BE SHORTED, THE ALD-2I MODULE MUST BE REMOVED FROM THE SCREW TERMINALS, AND NO ADDRESSABLE DEVICES MAY BE INSTALLED.
- 8. LINE CAPACITANCE IS MEASURED AT THE ALD-2I MODULE SCREW TERMINALS THE END OF THE LOOP(S) MUST BE OPEN. THE ALD-2I MODULE MUST BE REMOVED FROM THE SCREW TERMINALS AND NO ADDRESSABLE DEVICES MAY BE INSTALLED.
- 9. ALL 110/120 VAC CIRCUITS SHOULD BE INSTALLED IN DEDICATED
- 10. ALL INITIATING CIRCUITS ARE RATED POWER LIMITED AND SHOULD BE WIRED IN ACCORDANCE WITH APPLICABLE CODES.
- 11. UNDERGROUND WIRING IS PERMISSIBLE IF ALL NEC WIRING REQUIREMENTS ARE MET.
- 12. OVERHEAD OR EXTERIOR WIRING IS NOT RECOMMENDED.

CODE SUMMARY

APPLICABLE CODES:

- 2007 California Building Standards Administrative Code Part 1, Title 24, California Code of Regulations (CCR)

- Part 4, Title 24, CCR (2006 UMC and 2007 California Amendments)
- 2007 California Fire Code
- 2002 NFPA 72, National Fire Alarm Code
- And All Amendments and Additions to the Above

- 2007 California Building Code
- Part 2, Title 24, CCR (2006 IBC and 2007 California Amendments)
- 2007 California Electrical Code
- Part 3, Title 24, CCR (2005 NEC and 2007 California Amendments)
- 2007 California Mechanical Code
- 2007 California Plumbing Code
- Part 5, Title 24, CCR (2006 UPC and 2007 California Amendments)
- Part 9, Title 24, CCR (2006 IFC and 2007 California Amendments)

SCOPE OF WORK

- 1. PROVISION OF EQUIPMENT OR DEVICES AS ENUMERATED IN THE FIRE ALARM EQUIPMENT LISTS.
- 2. INSTALLATION & WIRING OF FIRE ALARM EQUIPMENT AND DEVICES (BY ELECTRICAL CONTRACTOR).
- 3. INSPECTION & TESTING FOR A COMPLETE AND OPERATIONAL FIRE ALARM

DRAWING INDEX

HEET NO.	SHEET CONTENTS	CAD FILENAME
	COVER SHEET & EQUIPMENT LIST	FA-01
	MISCELLANEOUS NOTES & DETAILS	FA-02
	MXL FIRE ALARM CONTROL PANEL	FA-03
	PAD-3 NAC EXTENDER PANEL DETAILS & NAC SCHEDULES	FA-04
	AL300ULXR POWER SUPPLY PANEL DETAILS	FA-05
	TYPICAL WIRING OF FIELD DEVICES	FA-06
7	FIRE ALARM RISER DIAGRAM	FA-07
	FIRE ALARM PLAN — LEVEL ONE	FA-08
	FIRE ALARM PLAN — LEVEL TWO	FA-09
	FIRE ALARM PLAN — LEVEL THREE	FA-10

FIRE ALARM EQUIPMENT LIST

ATE- ORY	ITEM NO.		QTY	MODEL NUMBER	DESCRIPTION	MANUFACTURER	DATA SHEET NUMBER	CALIFORNIA STA FIRE MARSHAL LISTING NUMBE
	1		1	MXL	SMALL MXL SYSTEM CONSISTS OF:	SIEMENS	5056	7165-0067:14
	2				1 MSE-2 ENCLOSURE / DOOR PACKAGE	SIEMENS	5037	7165-0067:14
	3				1 MMB-3 MXL MAIN CONTROL BOARD	SIEMENS	5079	7165-0067:14
	4				1 MKB-2 MXL DISPLAY / KEYPAD	SIEMENS	5026	7165-0067:14
PANEL	5	FACP			1 MOM-2 OPTION MODULE CARDCAGE (HALF WIDTH)	SIEMENS	5043	7300-0067:17
CONTRUE	6				1 MPS-6 POWER SUPPLY, 6 AMPS	SIEMENS		7165–0067:14
	7				1 MDL-1 CLEAR PLEXIGLAS LENS	SIEMENS	5056	
MAL r.A.	8		1	NIM-1W	NETWORK INTERFACE MODULE	SIEMENS	5072	7300-0067:17
~	9		1	CP2341	SURGE SUPPRESSOR	SIEMENS		7300-0067:17
	10		2	WKA12-33C	33 AMP-HOUR BATTERY (12 VDC)	WERKER		Not Applicable
	11							77
<u> </u>	12 13		2	PAD-3	AUXILIARY POWER SUPPLY & NAC EXTENDER	SIEMENS	3362	7300-0067:21
SUPPLY	14	PAD	4	WKA12-7.5F	7.5 AMPS/HOUR BATTERY, 12VDC	WERKER		Not Applicable
<i>(</i>)		[nec]	1	DSC	DUAL SYNCHRONIZATION CONTROL MODULE			7300-0067:21
	15	DSC	•			SIEMENS	2553	
ENALS	16	17	23	FP-11	INTELLIGENT PHOTOELECTRIC SMOKE DETECTOR	SIEMENS	6175	7272-0067:20
T ENIT HEIVAL			23	DB-11	DETECTOR BASE FOR FP-11 DETECTOR	SIEMENS	6175	7300-0067:13
	18	S B SB €	57	FP-11	INTELLIGENT PHOTOELECTRIC SMOKE DETECTOR	SIEMENS	6175	7272-0067:20
SOISIEM	19	30		ADBX-11	SOUNDER BASE	SIEMENS	6180	7300-0067:13
CES R	20		2	FPT-11	INTELLIGENT THERMAL FIRE DETECTOR	SIEMENS	6176	7270-0067:20
FIELD DEVICES	21		2	DB-11	DETECTOR BASE FOR FP-11 DETECTOR	SIEMENS	6176	7300–0067:13
	22	P	8	MSM-KD	INTELLIGENT MANUAL PULL STATION (DOUBLE ACTION)	SIEMENS	6184	7150-0067:21
	23		8	MSM-BOX	SURFACE BACKBOX	SIEMENS	6184	Not Applicable
	24	TRI-M	18	TRI-B6M	INTERFACE MODULE, SINGLE INPUT (MINIATURE)	SIEMENS	6170	7300-0067:14
	25	TRI-D	3	TRI-D	INTERFACE MODULE, DUAL INPUT	SIEMENS	6179	7300-0067:14
	26	TRI-R	3	TRI-R	INTERFACE MODULE, SINGLE INPUT w/ RELAY	SIEMENS	6179	7300-0067:14
	27	TRI-S	1	TRI-S	INTERFACE MODULE, SINGLE INPUT	SIEMENS	6179	7300-0067:14
	28	ICP	6	ICP-B6	CONTROL POINT MODULE	SIEMENS	5065	7300–0067:17
	30	<u>15CD</u>		7 ZR-MC-R	MULTI CANDELA STROBE, 15cd (Red) Wall Mtd.	SIEMENS	2584	7125–0067:25
	31	75CD	17		MULTI CANDELA STROBE, 30cd (Red) Wall Mtd.	SIEMENS	2584	7125-0067:25
	32		17		MULTI CANDELA STROBE, 75cd (Red) Wall Mtd.	SIEMENS	2584	7125–0067:25
	33				MULTI CANDELA STROBE, 110cd (Red) Wall Mtd.	SIEMENS	2584	7125-0067:25
	34	15CD		AS-MC-R	MULTI CANDELA HORN/STROBE, 15cd (Red) Wall Mtd.	SIEMENS	2578	7125–0067:24
	35	30CD 15	15		MULTI CANDELA HORN/STROBE, 30cd (Red) Wall Mtd	SIEMENS	2578	7125-0067:24
	36		10		MULTI CANDELA HORN/STROBE, 75cd (Red) Wall Mtd	SIEMENS	2578	7125-0067:24
	37	110CD			MULTI CANDELA HORN/STROBE, 110cd (Red) Wall Mtd.	SIEMENS	2578	7125-0067:24
	38	M M	57	MH-R	MINI-HORN	SIEMENS	2575	7135-0067:24
	39	505	1	#AL300ULXR	POWER SUPPLY	ALTRONIX		7315–1335:10
	40	PSP	2	WKA12-7.5F	7.5 AMP/HOUR BATTERY (12VDC)	WERKER		Not Applicable
	41	又	1	AH-R-WP	WEATHERPROOF HORN	SIEMENS	2578	7125-0067:24
	42	\Box	1	WBBS	BACKBOX	SIEMENS	2585	Not Applicable
	43	CR	7	PAM-1	MULTI-VOLTAGE RELAY MODULES	AIR PRODUCTS		7300-1004:10
,-	44	J		BY OTHERS	JUNCTION BOX (PROVIDED BY ELECTRICAL CONTRACTOR)	PROVIDED BY OTHERS		
^				BY OTHERS	END-OF-LINE DEVICE (VALUE AS SPECIFIED)	PROVIDED BY OTHERS		
AIIONS	45	- W-			t in the second of the second			
DINEVIALIONS		-\\-		D2300CPS	FIBER OPTIC INTERFACE MODULE	PROVIDED BY OTHERS		
	45	-W-		D2300CPS MXL-MFP0	FIBER OPTIC INTERFACE MODULE FIBER MODULE MOUNTING PLATE	PROVIDED BY OTHERS PROVIDED BY OTHERS		
SIMBOLS UND ABBREVIALIONS	45 46	-\\-						

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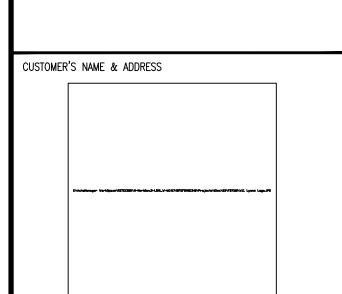
REVISIONS REVISED PER FIRE MARSHAL'S JPM 2/27/09 KW COMMENTS DATED 02/12/09 JPM 8/10/09 KW



C-10 APPROVAL STAMP:



ENGINEERING CONSULTANTS:



PRODUCT MANUFACTURER:

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JOB NAME & LOCATION (STREET ADDRESS)

LAWRENCE BERKELEY NATIONAL LABORATORY

> **BERKELEY LAB GUEST HOUSE**

Berkeley, California

SHEET CONTENTS:

INSTALLATION TYPE NEW INSTALLATION DESIGN/BUILD ☑ PER CONTRACT DOCUMENT EXISTING BASE JOB # ____ OTHERS _

SYSTEM SALES REP.:

DRAWN BY: CAD FILENAME:

SCALE:

JOB NUMBER

DRAWING NO. 6B23E003

44OP-048653